July 29, 1941. H. H. BABCOCK 2,250,455

TABLE TOP IRONER

Filed Jan. 13, 1941 2 Sheets-Sheet 1

Fig. 1.

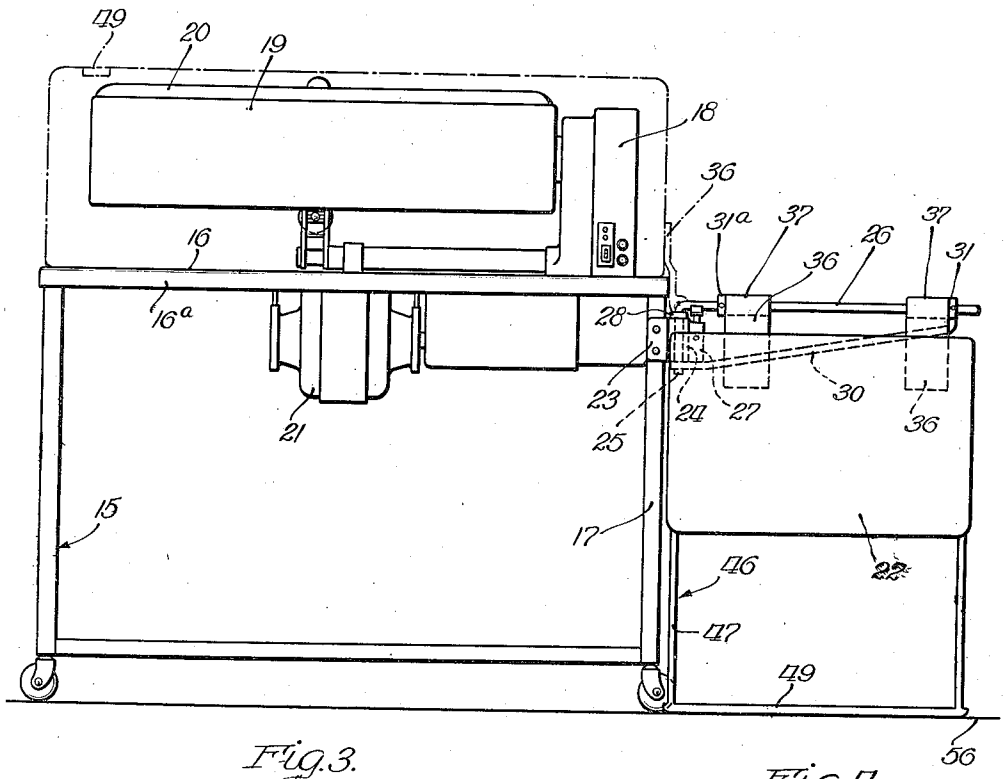


Fig. 3.

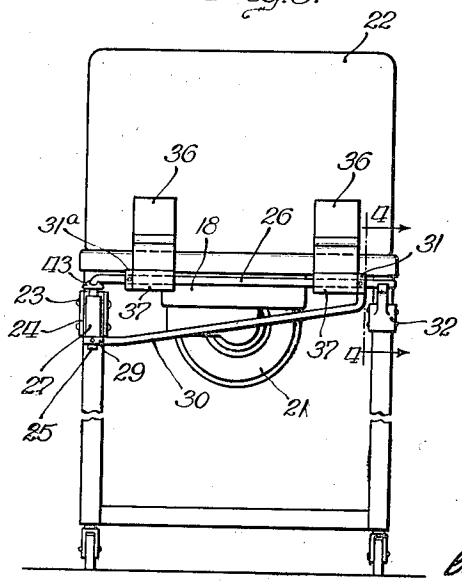


Fig. 4.

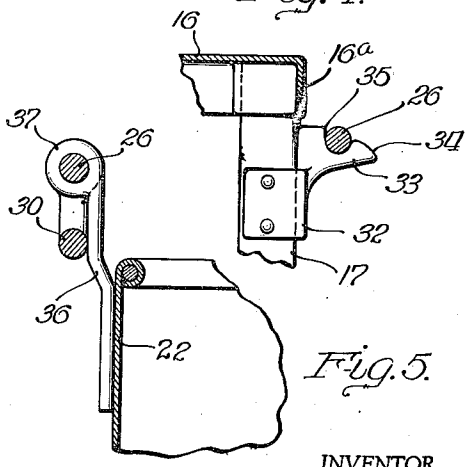


Fig. 5.

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TABLE TOP IRONER

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Fig. 2.

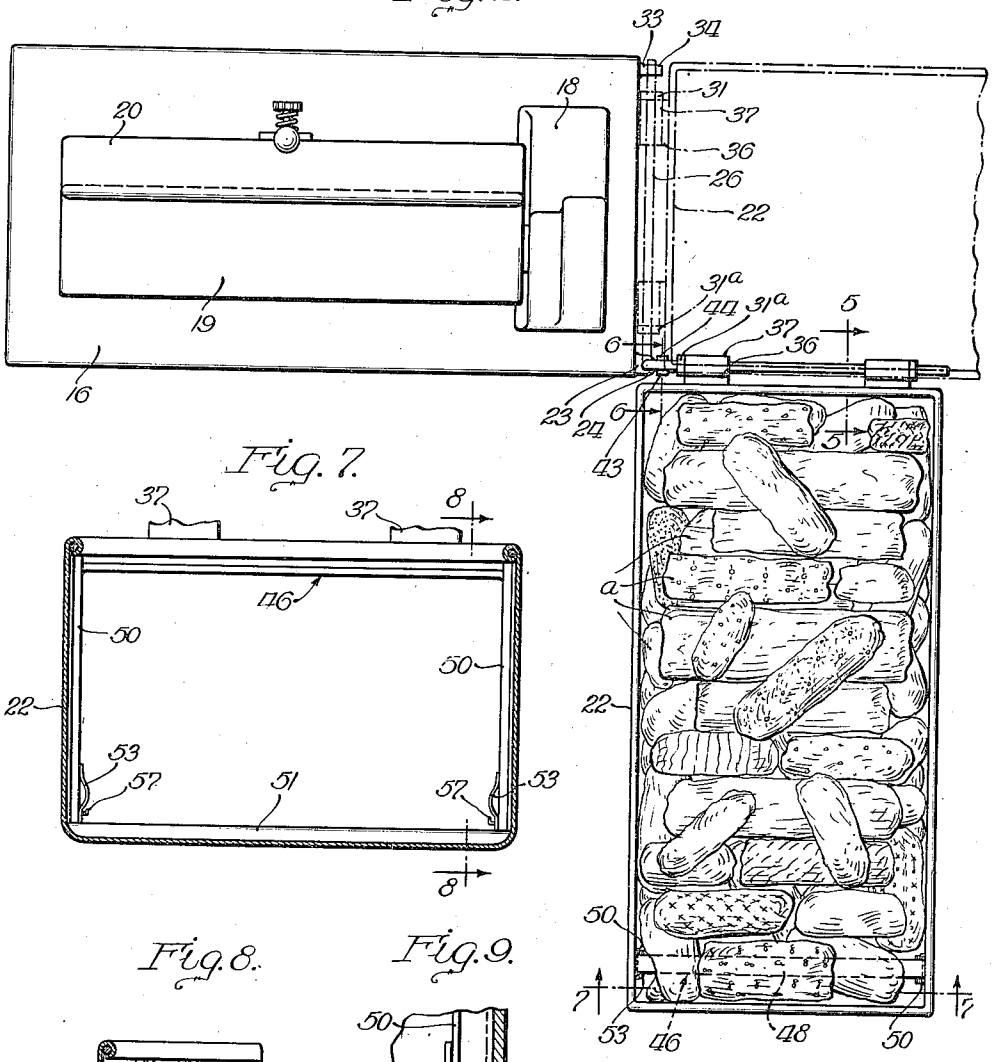


Fig. 7.

Fig. 8.

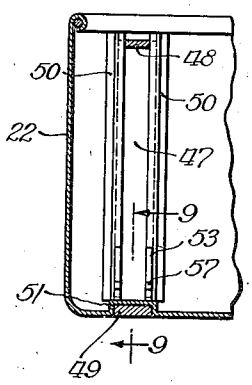


Fig. 9.

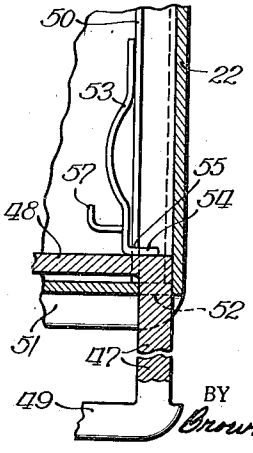
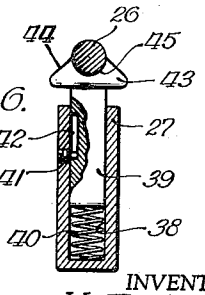


Fig. 6.



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UNITED STATES PATENT OFFICE

2,250,455

TABLE TOP IRONER

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Application January 13, 1941, Serial No. 374,142

10 Claims. (Cl. 45—68)

This invention relates to ironing machines, and has to do with machines intended for household use and now known as table top ironing machines.

In Patent No. 1,656,656, issued January 17, 1928, to Carl F. Anderson and Rudolph W. Janda, there is disclosed an ironing machine having a box cover which, in closed position, houses the cooperating roll and shoe and, in open position, is disposed at the back of the machine with its open side exposed to the hot shoe, effective as a guard for the latter. This machine has proved to be highly efficient in use and the instant invention is in the nature of an improvement thereon.

It is customary to sprinkle articles to be ironed and to roll them up after sprinkling, placing the sprinkled and rolled articles in a basket in which they remain overnight. When ironing, the basket of articles may be placed upon the floor, or upon a chair or other support, and the articles removed from the basket as they are to be ironed. That is objectionable, as being inconvenient, particularly if the basket be placed upon the floor, and has the further objection that the basket, and its support if it is placed upon a chair, obstructs floor space. Approximately ninety percent of persons having ironing machines keep them in the kitchen. Many modern apartments have small kitchens in which floor space is quite restricted. In such an apartment disposition of the box-cover at the back of the ironing machine, with the necessity of moving the machine away from a wall of the kitchen, would be objectionable as unduly obstructing the floor space. If, in addition, the floor space be obstructed by a basket containing the sprinkled and rolled articles, or the basket placed upon a chair or like support, the objectionable condition is aggravated.

My invention is directed to an ironing machine of the character referred to in which the box cover may be disposed to serve as a receptacle for the sprinkled and rolled articles to be ironed, the cover when in its open position being at an end of the machine so as to permit the latter to remain with the back thereof in close proximity to a wall of the kitchen, during the ironing operation. The cover is box-like or cubiform, with its interior substantially unobstructed so that it may readily be opened and closed while the cooperating ironing members remain in position above the bed plate of the machine, the cover when open being in inverted position with its open side uppermost, providing an open top receptacle of adequate capacity to contain the articles to be ironed and serving to retain and support such articles. Preferably, the cover, when in its open position, is disposed with its open top appreciably lower than the top surface of the bed plate, so as to avoid interference with freedom of movement of the operator's hands and arms during the ironing operation. More specifically, I provide means for hinging the cover to one end of the supporting structure of the machine for movement about a horizontal axis and about a vertical axis, such that the cover may be swung from its closed position into an inverted open position extending substantially horizontally lengthwise from one end of the machine, and may be swung about a vertical axis into a position extending forward of the machine at that end, preferably the right hand end, thereof. In the latter position of the cover, the sprinkled and rolled articles therein are readily accessible to an operator seated at the front of the machine, and may be removed therefrom for ironing as desired. Preferably, the hinge connection includes means for supporting the cover in its open inverted position and, if desired, additional supporting means may be provided. Further objects and advantages of my invention will appear from the detail description.

In the drawings:

Figure 1 is a front view of an ironing machine embodying my invention, with the cover shown in full lines in its inverted open position extending forwardly of the machine, and in dot and dash lines in its closed position;

Figure 2 is a plan view of the machine, with the cover shown in full lines in its open inverted forwardly extending position, and in dot and dash lines in open inverted position extending lengthwise of the machine from one end thereof;

Figure 3 is an end view of the machine with the cover shown in full lines in its closed position;

Figure 4 is a sectional view taken substantially on line 4—4 of Figure 3, on an enlarged scale;

Figure 5 is a sectional view taken substantially on line 5—5 of Figure 2, on an enlarged scale;

Figure 6 is a sectional view taken substantially on line 6—6 of Figure 2, on an enlarged scale, with certain parts shown in elevation.

Figure 7 is a sectional view taken substantially on line 7—7 of Figure 2, on an enlarged scale;

Figure 8 is a sectional view taken substantially on line 8—8 of Figure 7, on an enlarged scale and with certain parts broken away; and

Figure 9 is a sectional view taken substantially on line 9—9 of Figure 8, on an enlarged scale and with certain parts broken away, with the cover supporting frame projected.

I have illustrated my invention, by way of example, as applied to a table top ironing machine which, in general, is similar in construction and operation, except as to the cover mounting means and associated features, to the machine disclosed in Patent No. 2,175,377, issued October 10, 1939, to Edward B. Carson. It comprises a supporting structure including a frame

15 having a top bed plate 16 from which depend supporting legs 17, a gear housing 18 at one end of bed plate 16 extending thereabove, and cooperating ironing members, such as a roll 19 and a shoe 20, extending from housing 18 inwardly above plate 16 lengthwise thereof. The machine is driven by an electric motor 21, suitably supported beneath bed plate 16 and having appropriate driving and operating connections, through mechanisms within housing 18, to the roll and the shoe. The shoe 20 is electrically heated, and suitable switches and control means are provided for controlling operation of the roll and the shoe, the latter being moved to and from the roll and having associated therewith release means including a release lever, as is known in the art. The particular construction and operation of machine is not of the essence of my invention and may be varied considerably. Suffice it to state that the machine includes a supporting structure, cooperating ironing members mounted thereon, and means for operating said members and controlling the operation thereof.

When the machine is not being used for ironing, the ironing members 19 and 20 are enclosed by a box-like or cubiform sheet metal cover 22 seating on bed plate 16, as will be clear from Figures 1 and 3, the lower side of which cover, in the closed position thereof, is open throughout its full extent and the interior of which is substantially unobstructed. The top wall of cover 22 is flat, the machine serving as a table when the cover is closed.

The bed plate 16 is rectangular in plan, as in Figure 2, and legs 17 are disposed at the corners of this plate, which preferably is provided with a depending peripheral reinforcing flange 16*a*. A fitting 23 of suitable shape is secured to one leg 17, preferably the right front leg, a short distance below bed plate 16, and carries a vertically disposed sleeve 24. Leg 17, which may be of steel, is shown as being of tubular rectangular cross section and the fitting is shaped accordingly and secured to the leg by bolting. The leg 17 may, of course, be of any suitable shape and formed of any suitable material, and fitting 23 may vary in shape accordingly and may be secured to the leg by bolting, welding or in any other appropriate manner.

Sleeve 24 of fitting 23 receives a vertical arm 25 depending from one end of a horizontal rod 26 which, in the normal closed position of cover 22, extends across the end of the machine a short distance below bed plate 16, as in Figure 3. Preferably, though not necessarily, means is provided for releasably securing rod 26 in that position, and in a second position perpendicular to its position shown in Figure 3, as will be explained presently. Sleeve 24 of fitting 23 carries at its outer side a vertical boss 27 having its upper end spaced a suitable distance below the upper end of sleeve 24. Arm 25 is mounted for turning movement in sleeve 24 and extends downward below the lower end thereof. A collar 28 is suitably secured on arm 25 and has bearing on the upper end of sleeve 24. A collar 29, at the lower end of an inclined brace 30, is suitably secured on arm 25 at the lower end of sleeve 24 and cooperates therewith and with collar 28 for confining arm 25 against endwise movement through sleeve 24. A collar 31, at the upper end of brace 30, receives rod 26 and preferably is secured thereto. At fitting 32 of suitable shape is bolted or otherwise suitably secured to back leg 17 at the same end of the machine as fitting 23. Fitting 32 comprises an outwardly extending latch element 33 presenting a cam surface 34 inclined upward to a semicircular upwardly opening recess 35 of substantially the same radius as rod 26. The end portion of rod 26 remote from sleeve 24 seats in recess 35, in which it is held by the inherent resiliency of rod 26, when the latter is in its position shown in Figure 3.

Hinge straps 36, spot welded or otherwise suitably secured to the end wall of cover 22 adjacent rod 26, are provided with sleeves 37 mounted on rod 26 for turning thereabout. The outer end of one of the sleeves 37 abuts collar 31 and the outer end of the other sleeve 37 abuts a collar 31*a* secured on rod 26, for restraining the cover against relative movement lengthwise of the rod. When rod 26 is in its position shown in Figure 3, it provides a hinge pintle about which cover 22 may be turned from its closed position of Figure 3 into its inverted open position extending lengthwise from the end of the machine, shown in dot and dash lines in Figure 2, and vice versa. The hinge straps 36 are so shaped and disposed as to contact brace 30, when the cover 22 is in its inverted open position, as shown in Figures 2 and 5, and cooperate therewith and with rod 26 for limiting opening movement of the cover and holding in horizontal position.

Boss 27 has a cylindrical bore 38 extending from its upper end, in which is slidably mounted a plunger 39 urged upward by a compression coil spring 40, disposed in bore 38 and confined between plunger 39 and the closed lower end of boss 27. A dog pointed screw 41 is threaded in boss 27, with its point engaging in a lengthwise groove 42 in plunger 39, and restrains the latter against turning movement while limiting its upward travel. Plunger 39 is provided at its upper end with a head 43 presenting, at the rearward side thereof, a cam surface 44 inclined upward to an upwardly opening approximately semi-circular recess 45 having a radius substantially the same as that of rod 26.

After cover 22 has been turned into its inverted open position shown in dot and dash lines in Figure 2, rod 26 may be disengaged from recess 35 of latch element 33, by springing this rod and brace 30 slightly upwardly and swinging rod 26 a short distance away from the end of the machine about the axis of arm 25. That frees rod 26 from fitting 32, and this rod, together with brace 30 and cover 22, may then be swung clockwise, as viewed in Figure 2, about the axis of arm 25 through an arc of approximately 90° into position extending forwardly of the machine, as shown in full lines in that figure. As rod 26 approaches the limit of its forward swinging movement, it contacts cam surface 44 and, in its continued travel, depresses plunger 39. When rod 26 passes off of cam surface 44, plunger 39 is moved upward by spring 40 into position with head 43 engaging about rod 26 and effectively locking the latter against turning in either direction about the axis of arm 25, as in Figure 6. That serves to lock cover 22 in its open inverted forwardly extending position at the right hand end of the machine. In this position cover 22 provides an open top box or receptacle, analogous to a basket, in which the sprinkled and rolled up articles to be ironed may be placed. The articles *a* in their sprinkled and rolled condition are thus supported at the right hand of the operator in position to be readily accessible and may be removed from the cover as desired. By using the cover as a re-

ceptacle for the rolled and sprinkled articles, the use of a basket for that purpose is obviated, with a corresponding saving in floor space, and the articles are supported in position to be readily accessible to the operator. Due to its box form, cover 22 effectively retains the articles and avoids the difficulty of having them roll off onto the floor, as is apt to occur if the rolled articles be stacked upon a flat supporting surface, as is sometimes done. Ordinarily, it is preferred to have the cover extend forwardly of the machine, though in certain cases, as where the articles are rather large, it may remain in its inverted open position extending lengthwise from the end of the machine, shown in dot and dash lines in Figure 2.

If desired, and preferably, means may be provided for supporting the end of the cover 22 remote from rod 26, when the cover is in its inverted open position. Any suitable supporting means may be provided. Conveniently, a rectangular frame 46 having side bars 47 and cross-bars 48 and 49 is mounted on cover 22, adjacent the end thereof remote from rod 26 and in position to clear the ironing members 19 and 20 in the opening and closing movements of the cover. Side bars 47 are slidable in suitably formed guide strips 50 spot welded or otherwise suitably secured to the side walls of cover 22. Cross bar 48 is narrower than side bars 47, and of a width to fit between guide strips 50, as shown in Figure 8. Cross-bar 49 may be somewhat wider than the side bars 47 and, when frame 46 is in its retracted position, fits snugly within a transverse channel element 51 pressed in the top wall of cover 22, with its top surface flush with the top surface of the cover. Side bars 47 operate through appropriate slots 52 in channel element 51, and cross bar 49 extends a short distance beyond side bars 47 and has its terminal portions shaped conformably to the upper side corners of cover 22, so that bar 49 merges into the cover and cannot readily be detected therefrom structurally, when frame 46 is in its fully retracted position. Channel element 51 imparts desirable rigidity and strength to cover 22.

Frame 46 may be secured in position in any suitable manner. I have shown leaf springs 53 welded to guide strips 50, each having at its lower end, in the open inverted position of the cover shown in Figure 9 (its upper end in the closed position of the cover), a detent 54 operating in a slot 55 in strip 50. Slots 55 are so disposed that, when cover 22 is in its inverted open position and frame 46 is in its projected position, with bar 49 seating on floor 56 or other supporting surface for the ironing machine, detents 54 project inward of strips 50 at the upper ends of side bars 47, as in Figure 9. That effectively locks frame 46 in its projected position, in which position it provides a stable support for the end of cover 22 remote from rod 26. For convenience in releasing frame 46, the leaf springs 53 may be provided with suitable handles 57. By withdrawing detents 54 frame 46 may be moved upward slightly, beyond slots 55, after which springs 53 may be released and frame 46 may be returned to its retracted position, in which latter position it may be held by friction, while cover 22 is in inverted position, gravity assisting friction in holding frame 46 in its retracted position when cover 22 is in its normal closed position.

In order to return cover 22 to closed position, from its inverted open forwardly extending position, frame 46 is returned to its retracted position, plunger 39 is depressed sufficiently to release rod 26, and cover 22, and with it rod 26 and brace 30, is swung counterclockwise, as viewed in Figure 2, about the axis of arm 25 through an arc of approximately 90°. As rod 26 approaches parallelism with the adjacent end of bed plate 16, the free end thereof contacts cam surface 34 of latch element 33. In the continued movement of rod 26 it and brace 30 are sprung upward slightly and when the end of the rod reaches the upper end of surface 34, rod 26 snaps into recess 35. Cover 22 may then be swung about rod 26 into closed position, in an obvious manner.

In the event the supporting structure for the machine is not provided with distinct and separate legs, as is the case in certain machines, the fittings for rod 26 may be mounted in any suitable manner, in appropriate locations, as will be understood. It will also be understood that changes in construction and arrangement of parts of my invention may be resorted to without departing from the field and scope thereof, and I intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred form only of my invention is disclosed.

I claim:

1. In combination, a support comprising a top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a substantially horizontal rod pivoted at one end of said support on a vertical axis for movement between a position substantially parallel to said end and a position substantially perpendicular to said end, and means hingedly connecting said cover to said rod for movement relative thereto about a horizontal axis from its closed position to an open inverted substantially horizontal position extending from said one end of said support with its open side uppermost and for movement with said rod about said vertical pivot to a position extending forwardly of said support, providing a forwardly extending open top box-like receptacle for retaining and supporting articles placed therein.

2. In combination, a support comprising a top member having a substantially horizontal supporting surface and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a horizontal rod pivoted at one end of said support on a vertical axis for movement between a position parallel to said end and a position substantially perpendicular to said end, and means connecting said cover and said rod for movement of said cover about the axis of said rod from closed position to an open inverted substantially horizontal position extending from said one end of said support with its open side uppermost, said cover being movable with said rod about said vertical axis from its said open position to a position extending forwardly of said support, providing a forwardly extending open top box-like receptacle for retaining and supporting articles placed therein.

3. In combination, a support comprising a rectangular top member having a substantially horizontal supporting surface and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over

said top member with its open side lowermost for covering said top member, a horizontal rod pivoted at one end on one end of said support for movement about a vertical axis adjacent one corner of said top member, said rod being movable about said vertical axis between a position substantially parallel to said one end of said support and a position substantially perpendicular thereto, and hinge members secured to one end of said cover and connected to said rod for turning movement about the axis thereof.

4. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a bearing fitting secured to one end of said support adjacent a front corner of said top member, a horizontal rod having at one end a depending vertical arm pivotally mounted in said fitting for turning therein, a brace connecting said arm and said rod, and hinge members secured to the adjacent end of said cover and connecting it to said rod for turning movement about the axis thereof, said hinge members and brace cooperating to hold said cover in its open inverted substantially horizontal position with its open side uppermost.

5. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a bearing fitting secured to one end of said support adjacent a front corner of said top member, a horizontal rod having at one end a depending vertical arm pivotally mounted for turning in said fitting, an inclined brace connecting said arm and said rod, and hinge members secured to the adjacent end of said cover and connecting it to said rod for turning movement about the axis thereof, said hinge members and brace cooperating to hold said cover in its open inverted substantially horizontal position with its open side uppermost.

6. In combination, a support comprising a rectangular top member having a substantially horizontal supporting surface and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a fitting secured to one end of said support adjacent a front corner of said top member, a horizontal rod having at one end a depending vertical arm mounted for turning in said fitting, an inclined brace connecting said arm and said rod, means for releasably securing said rod to said support parallel with said one end thereof, and hinge members secured to the adjacent end of said cover and connecting it to said rod for turning movement about the axis thereof, said hinge members and brace cooperating to hold said cover in its open inverted substantially horizontal position with its open side uppermost.

7. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a fitting secured to one end of said support adjacent a front corner of said top member, a horizontal rod having at one end a depending vertical arm mounted for turning in said fitting, an inclined brace connecting said arm and said rod, means for releasably securing said rod to said support parallel with said one end thereof, means for releasably holding said rod against turning movement in position substantially perpendicular to said one end of said support, and hinge members secured to the adjacent end of said cover and connecting it to said rod for turning movement about the axis thereof, said hinge members and brace cooperating to hold said cover in its open inverted substantially horizontal position with its open side uppermost.

8. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a fitting secured to one end of said support adjacent the right front corner of said top member, a horizontal rod having at one end a depending vertical arm mounted for turning in said fitting, an inclined brace connecting said arm and said rod, means for releasably securing said rod to said support parallel with said one end thereof, means for releasably holding said rod against turning movement in position substantially perpendicular to said one end of said support, and hinge members connecting the adjacent end of said cover to said rod for turning thereabout and movement therewith about the vertical axis of said arm, said hinge members and brace cooperating to hold said cover in its open inverted substantially horizontal position with its open side uppermost.

9. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a fitting secured to one end of said support adjacent the right front corner of said top member, a horizontal rod having at one end a depending vertical arm mounted for turning in said fitting, an inclined brace connecting said arm and said rod, means for releasably securing said rod to said support parallel with said one end thereof, means for releasably holding said rod against turning movement in position substantially perpendicular to said one end of said support, hinge members connecting the adjacent end of said cover to said rod for turning thereabout and movement therewith about the vertical axis of said arm, and supplementary means cooperating with said rod for supporting said cover in its open inverted substantially horizontal position with its open side uppermost.

10. In combination, a support comprising a rectangular top member and adapted to support an ironing machine, a box-like cover open at one side positioned when closed over said top member with its open side lowermost for covering said top member, a fitting secured to one end of said support adjacent the right front corner of said top member, a horizontal rod having at one end a depending vertical arm mounted for turning in said fitting, hinge members connecting the adjacent end of said cover to said rod for turning thereabout and movement therewith about the vertical axis of said arm, and supplementary means cooperating with said rod for supporting said cover in its open inverted substantially horizontal position with its open side uppermost.

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